



# The Effect of Wages, Infrastructure, and Political Stability on Foreign Investment in Indonesia

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **ABSTRACT**

The aim of this research is to examine the impact of wages, infrastructure, and political stability on foreign investment in Indonesia. The data used is secondary data in the form of panel data covering 34 provinces in Indonesia from 2017 to 2021. Dynamic panel regression estimation is used in this work to analyze statistical data using Stata 13 and Eviews 10 software. According to the study's partial findings, wages have a positive effect but not significantly on foreign investment in short and long term. In addition, infrastructure has a positive and significant impact on foreign investment both the long and short term. Meanwhile, political stability was found to have a negative but insignificant effect on foreign investment, both in short and long term. However, wages, infrastructure, and political stability simultaneously have a significant effect on foreign investment in Indonesia. Therefore, according to this study, the government must continue to increase infrastructure development. In addition, workers and employers must take into account their needs when setting wage rules. Even though the nation is in a dynamic condition, another component that must be considered is related to a solid democracy.

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## 1. INTRODUCTION

Limited capital will influence a country's deteriorating economic production, as well as the people's poor income. To address this issue, the government must optimize all sources of funding. Domestic savings and tax income can be used to fund this. However, when these two sources of finance declined, additional sources of financing, especially foreign debt and investment, were necessary. The use of foreign debt as the primary source of financing might become a burden on the state budget in the long run owing to the interest expense effect it creates. Investment is the best solution for countries struggling with a shortage of money to support manufacturing operations. The absence of utilization of a lot of contemporary instruments in the economy suggests a capital shortage. Investments can supplement the flow of fresh money in the company's capital deposits.

Investment, as a relatively invulnerable and long-term capital flow, will absorb idle funds from society and redirect them into productive activity. Because it may stimulate economic activity, the investment is seen to be capable of contributing to development and economic progress. Capital may be defined as an expenditure that increases the economy's ability to generate commodities or services while also increasing public interest in those goods or services. Capital formation in the Indonesian economy is likely to provide significant production in the future.

Foreign investment is one of the measures adopted to satisfy Indonesia's investment demands. Foreign investment is defined as an investment activity with foreign elements that happens owing to a variety of causes such as disparities in national circumstances and money sources possessed.

Fig. 1 shows that foreign investment acceptance in Indonesia fluctuates. This was prompted by distinct changes in different places. The realization of foreign investment owned by Indonesia fell by 9.094% in 2018. In 2019, while the globe was experiencing economic difficulties as a result of COVID-19, Indonesia was able to boost the acceptance of foreign investment realization to -3.075%. This amount has also increased as the administration was successful in reviving the economy, as indicated by the increasing realization from 2020 to 2021.

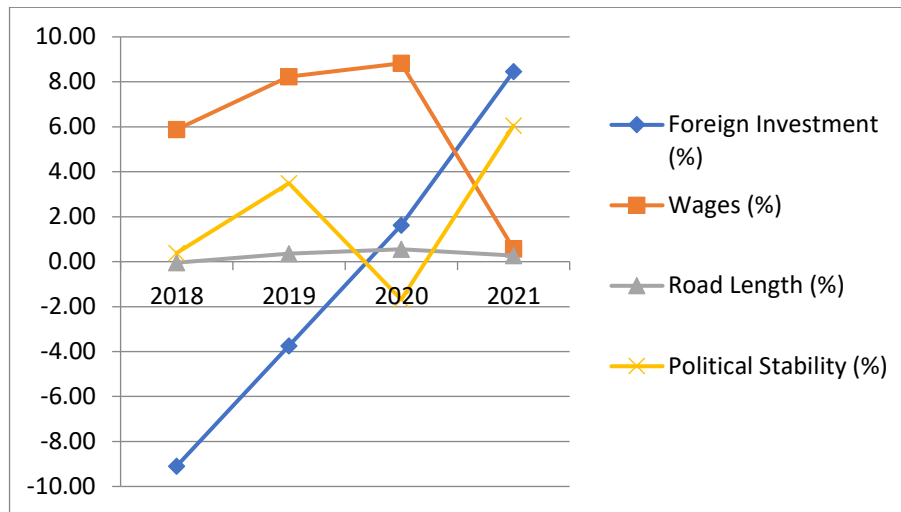
The wage level of workers is the economic component that is expected to have an impact. Wages are one of the production elements whose size influences production costs. The quantity of pay established is determined by subsistence needs, which implies that the wage rate may be changed to meet the workforce's minimal living demands. As a result, if workers have a higher quality of life, the wages paid by employers/companies will rise as well.

According to Fig. 1, the provincial minimum wage rates in Indonesia are gradually growing quite considerably from 2017 to 2021. However, the smallest growth happened in 2021, when it increased by only about 0.57%. The provision of infrastructure and amenities for foreign investors contributes to the smooth operation of economic activity, particularly investment operations. The entire length of the road measured from each level of government power is the observable infrastructure. Fig. 1 depicts the entire length of roads in Indonesia from 2018 to 2021, both from the level of state authority to city districts, which has expanded considerably, but not significantly, by less than 1%.

From a political perspective, investors consider this when investing in Indonesia. Investors, as a group, are sensitive to political interests, and they don't want to take risks if the Indonesian government is in disarray. The Indonesian Democracy Index (IDI) indicate the progress of Indonesia's democracy. IDI is a measuring methodology based on Indonesian sociopolitical trends. According to official data, Indonesian democracy is in a very medium category, despite variable movements from 2017 to 2021.

National democracy will be at a moderate level in 2021, with the freedom aspect at 79,92; the total at 78,86 and the capability of democratic institutions at 75,67 contributing to this result.

The amount of foreign investment realization is the result of investor interest in Indonesia's development. Indonesia must be able to form a conducive investment climate, promotive, and provides legal certainty, justice and efficiency. Therefore it is necessary to conduct research that examines what factors can influence foreign investment in Indonesia so that the level of foreign investment in Indonesia can continue to increase.



**Fig. 1. Growth of foreign investment, wages, road length, and political stability in Indonesia 2017-2021 (%)**

Source: <https://www.bps.go.id/>

## 2. LITERATURE REVIEW

### 2.1 Foreign Investment

Investment is a belief in risking assets for a specific period in the future to obtain sufficient income to compensate for the sacrifices made by investors in the form of a) phase commitment at a specific time, b) inflation rate, and c) unpredictable future income. As a result, the investment function has evolved into a key and strategic activity, Reilly & Brown [1]. Harrod Domar emphasized the significance of capital generation in boosting the country's economy. He contends that investment spending serves two purposes, namely on the demand and supply sides. On the demand side, investment serves to generate revenue. Meanwhile, on the supply side, investment contributes to increased economic potential by growing the capital stock. Long-term investment will increase social capital stock and production capacity ( $I=K$ ), causing the S curve to move to the right. In general, a country's investment climate is heavily impacted by the country's future conditions, which are, of course, impossible to foresee.

Foreign investment activities must be carried out in the appropriate places to ensure that investment activities run smoothly. Weber's industrial location theory examines the expense of constructing a space in a corporation. According to this principle, an industry should be constructed in environmentally friendly areas with low expenses. The entire cost of transportation

and labor are among the factors that are of significance. Where the total of the two must be kept to a minimum to maximize profitability. Furthermore, this theory takes into account general regional characteristics, as well as local and particular agglomeration, to decide industrial placement.

### 2.2 Wage

Foreign investment activities must be carried out in the appropriate places to ensure that investment activities run smoothly. Weber's industrial location theory examines the expense of constructing a space in a corporation. According to this principle, an industry should be constructed in environmentally friendly areas with low expenses. The entire cost of transportation and labour are among the factors that are of significance. Where the total of the two must be kept to a minimum to maximize profitability. Furthermore, this theory takes into account general regional characteristics, as well as local and particular agglomeration, to decide industrial placement. Wages as a factor of production provided by workers will be given following the increase in the marginal returns of these factors of production.

The formulation of wage rate determination and the evolution of the wage system in Indonesia must be carried out by the Wage Council, which is made up of representatives from the government, labour unions, academia, and employers' groups. Wage rate determination can

have an impact on investment flows. When the wage rate falls, the earnings earned by the labour fall. This pay rate will subsequently become an incentive for businesses to hire additional workers. The addition of workers will result in increased output. This is what attracts international investors to invest in a country with a low wage rate. However, if you look at it from the perspective of the labourers, they are not willing to be paid less than the worth of their business, which causes these people to be disloyal to the firm where they work. In other words, this theory emphasizes the added value of production results or labour productivity as the primary factor determining the number of wages received by workers, with the assumption that labour and capital are perfectly mobile and wage levels in different companies should be the same.

### 2.3 Infrastructure

The availability of infrastructure influences the current economic system in society; consequently, infrastructure must be regarded as the foundation for policymaking. Investment plays a supportive function in the phases of growth of a country. As a result, infrastructure in the form of public goods must be provided by central and regional governments to support the stages of development, with availability tailored to the needs of each region. Not only that, but infrastructure may help a country's economic activities function smoothly. Better infrastructure development may lower production costs, increase mobilization access, restore people's income levels, improve production efficiency, and aid in the distribution process.

### 2.4 Political Stability

Democracy is a political arena in which it will choose who is in power and what policies will be implemented to solve problems while taking minority perspectives into account [2,3]. A country's application of a democratic system is generally dependent on its past, where colonial cultural norms are also quite significant. Indonesia is a country that has a democratic system in place. The meaning of democracy is the allocation of power among diverse groups in the functioning of the state, which includes core liberties such as freedom of expression, competition and opinion. People have an important part in carrying out state policy under a democratic society since it is in their hands. However, the people's position might be altered

due to the government's attitude, which strives to limit the space for the nature and will of the people through amendments to the constitution or by-laws. The IDI assessment of the performance of the government and the general population is used to determine the quality of Indonesian democracy. From 2009 through 2020, the IDI accomplishment criteria focus on three major areas: civil freedoms, political rights, and democratic institutions [4]. The IDI evaluation was changed in 2021 based on numerous necessities, with the elements achieved being freedom, ability, and institutional capability. IDI accomplishments are stated on a normative scale ranging from 1 (lowest performance) to 100 (best performance). If all indicators have the lowest score, the performance will be the worst, and vice versa. This scale is then divided into three categories: 1. Good 1. Excellent (index > 80), 2. Moderate (index 60-80), and 3. Poor (index 60). Development and democracy are inextricably linked. These two features can strengthen each other if democracy on the one hand and development on the other are not at odds. Democracy might lose its effect if it is not built on solid economic foundations.

### 2.5 Empirical Literature

Wekesa et al. [5] Wekesa et al research in Kenya, which used several analysis methodologies, discovered a variety of socioeconomic and political factors that impact foreign investment decisions. Wages, as well as water and waste management infrastructure, are used to understand social aspects. Nominal wage increases have little effect on investment inflows. Water and waste management infrastructure has a good link with foreign investment. On the economic side, it is represented by communication and transportation infrastructure factors. In contrast, the development of transportation and communication infrastructure is a factor that investors consider when investing.

Using the first differencing (FD) approach on a data panel model, Xaypanya et al. [6] discovered variations in the determinants impacting foreign investment entrance into ASEAN 3 (Cambodia, Laos, and Vietnam) and ASEAN 5 (Indonesia, Malaysia, Singapore, Thailand, and Philippines). The potential for attracting foreign investment in ASEAN 3 nations, which are still categorized as developing countries, is based on the availability of basic infrastructure, economic openness to

international commerce, and inflation. Meanwhile, the appeal of foreign investment for ASEAN 5 member nations stems from GDP, telephone connections, inflation, and trade openness [8,2].

Chen et al. [9] investigated "Foreign Comvoment and Country Institutions." From 2000 to 2011, samples of public enterprises, and domestic and overseas companies were collected from various nations. According to the conclusions of this study, foreign investment from countries with solid financial market circumstances, stringent legal norms, and maintained political stability can support more efficient investment operations.

Ogbanga et al. [10] discovered economic development in Nigeria through observation and analysis of the development of foreign investment using the Autoregressive Distributed Lag method, initially concluding that trade had no significant impact, but as time passed, this factor began to require inflows of foreign investment, resulting in a positive effect. The impact on foreign investment in aviation infrastructure might still be felt in the long and near term. On the other hand, there is no influence on foreign investment in transportation and communication infrastructure, both long and short term. This is due to insufficient development of the two infrastructures.

### 3. METHODOLOGY

Researchers choose to conduct this investigation using a descriptive approach strategy. The researchers opted to monitor 34 provinces in Indonesia for this investigation. Data was collected from each of these models during five years, beginning in 2017 and ending in 2021. The data must first be tested before estimating a model. Economic data in a time series is typically stochastic or non-stationary, implying that the data has a unit root. If the process behaviour does not fluctuate over time, or if the process is in equilibrium, the time series data is deemed stationary. The Levin, Lin, and Chu (LLC) test was employed in this study as a form of testing

procedure. The Levin, Lin, and Chu (LLC) test technique employs two hypotheses: H0: the data is not stationary and H1: the data is stationary.

The concept of cointegration is to determine the long-term balance of the observable variables. The Johansen Cointegration test was used as the cointegration method for this investigation. In this test, the size of the probability will be compared with the degree of confidence employed by 5%. If the probability value is less than 5%, cointegration between variables exists.

### 3.1 Dynamic Panel Regression

This study raises several economic variables, the majority of which are dynamic. Thus, dynamic panel data regression is used to evaluate panel data to accept it as a description of the dynamics that occur. The equation employed in the dynamic model is as follows:

$$FI_{i,t} = \delta + FI_{i,t-1} + \beta_1 W_{i,t} + \beta_2 Inf_{i,t} + \beta_3 DI_{i,t} + u_{i,t}$$

## 4. RESULTS AND DISCUSSION

### 4.1 Results

The stationary test findings from Table 1 reveal that wages, infrastructure, and political stability have stationary data at the lowest level since their probability number is less than = 5%. Foreign investment data is determined to have a unit root or to be nonstationary at levels when the likelihood is more than = 5%. The data, however, demonstrates a stationary state when it is at the first difference level with a probability of 0,00.

The results of cointegration using the Kao Test method have an ADF probability value of 0.000, which is less than alpha of 0.05, indicating that foreign investment, payments, infrastructure, and political stability have a long-term relationship in the cointegrated model. Meanwhile, cointegration for all variables will adapt in the near term to attain long-term equilibrium.

**Table 1. Stationarity Levin, Lin, Chun-T Test Result**

Variable	Level		First Difference	
	Levin	Status	Levin	Status
<b>FI</b>	0,102	Non-stationer	0,000	Stationer
<b>W</b>	0,000	Stationer	0,000	Stationer
<b>INF</b>	0,000	Stationer	0,000	Stationer
<b>IDI</b>	0,000	Stationer	0,000	Stationer

Source: Eviews 10

**Table 2. Cointegration kao test result**

ADF	t-statistic	Probabilitas
	-8,386	0,000

Source: Eviews 10

**Table 3. Estimation fixed effect model**

Variabel	Koefisien	Jangka Pendek			Jangka Panjang			
		Robust Standar Error	T	Pvalue	Koefisien	Standar Error	Z	Pvalue
L1.FI	0,3870	0,1860	2,08	0,045	-	-	-	-
W	0,0001	0,0002	0,43	0,673	0,0001	0,000	0,40	0,691
Inf	0,0884	0,0231	3,83	0,001	0,0880	0,048	3,04	0,002
IDI	-7,3199	6,1556	-1,19	0,243	-11,9420	10,919	-1,09	0,274
Cons	-609,1902	585,1902	-1,04	0,305	-	-	-	-

Source: Stata 13

**Table 4. Simultan test (F Test)**

F-Statistic	10,65
Prob F	0,00000

Source: Stata 13

The following equation is formed:

$$FI_{i,t} = -609,1902 + 0,3870L1FI_{i,t} + 0,0001W_{i,t} + 0,0884 Inf_{i,t} - 7,3199 IDI_{i,t} + u_{i,t} \dots \quad (i)$$

$$FI_{i,t} = 0,0001W_{i,t} + 0,0880 Inf_{i,t} - 11,9420IDI_{i,t} + u_{i,t} \dots \quad (ii)$$

The coefficient value of the previous period's investment level was 0.387, which means that if there was a 1% rise in foreign investment in the previous period, the level of foreign investment rose by 0.387 with all other independent variables held constant.

The wage rate's coefficient value is 0,0001 which means that if wages rise by 1%, foreign investment will rise by 0,0001 all other independent variables being held constant in the short run. The wage rate's coefficient value is 0,0001 which means that if wages rise by 1%, foreign investment will rise by 0,0001 all other independent variables being held constant over the long run.

The infrastructure level coefficient value is 0,088, meaning that if there is an increase in infrastructure by 1%, the level of foreign investment will increase by 0,088 with other independent variables considered constant in the short and long term.

The coefficient value of political stability is -7,319 which means that, with all independent variables held constant in the short term, if political stability changes by 1%, the amount of

foreign investment will also fluctuate by 7.319. The coefficient of political stability, on the other hand, is -11,942 which means that over the long run, if there is a 1% shift in political stability, the amount of foreign investment will decline by 11,942. Regarding Table 3, it can be shown that the only factor that affects foreign investment both in the short and medium terms to a somewhat important degree is infrastructure. Referring to Table 3, it can be identified that infrastructure is the only variable that has a partially significant effect on foreign investment both in the short term and in the long term. On the other hand, political stability has a negative coefficient, but the probability value indicates that political stability is unable to influence foreign investment in both timeframes. Based on Table 4, a probability value of less than 5% is obtained. Thus, in the previous period, wages, infrastructure, and political stability simultaneously affected foreign investment.

#### 4.2 Discussion

The wage rate has a positive relationship but does not affect foreign investment in Indonesia. This is consistent with the theory of wages of the neoclassical, where for investors, spending high

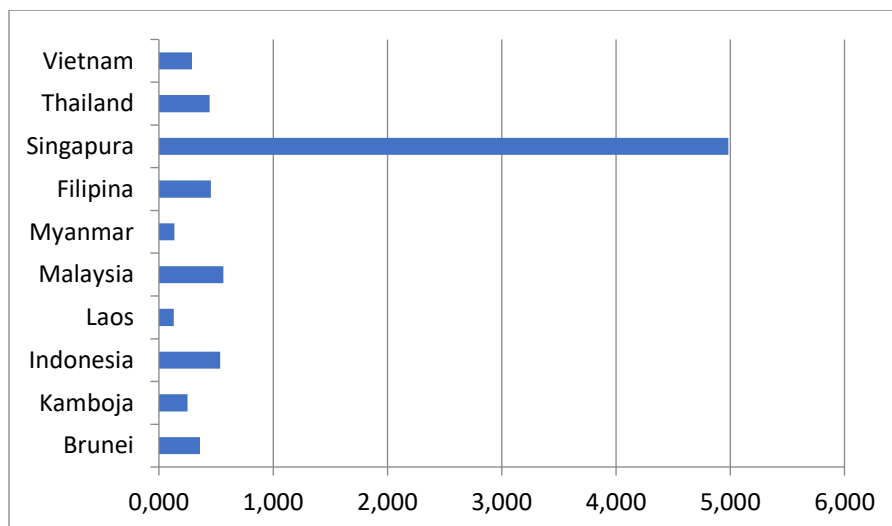
wages is not too much of a problem as long as the productivity and marginal returns of workers increase to generate a lot of profit. Each country has different minimum wage setting provisions. There are even several countries that do not implement a minimum wage policy. Singapore has the highest average wage rate in ASEAN, followed by Brunei Darussalam. However, it should be noted that these two countries are among the countries that do not set minimum wage regulations. Indonesia, as one of the countries that sets a minimum wage for each province, shows the 4th highest average wage with a wage of US\$535 per month. Although Indonesia has a high level of wages.

Another factor, namely infrastructure, is always able to influence the level of foreign investment in Indonesia. In the short term, the impact of infrastructure can be felt by the company because it involves the issue of costs that must be incurred by the company for investment activities. This is in line with the industrial location theory popularized by Weber, where a company will be efficient if it is built in a location that has minimum production costs. One manifestation of regional development is the development of road infrastructure. The central and regional governments have their respective responsibilities for building roads. There is a significant difference between the stability of provincial roads and national roads. Road stability can be interpreted as the ratio of the length of the road that is categorized as good or moderate to the total road length. The classification of this category is based on the

evenness of the surface that is suitable for vehicles to pass quickly, safely, and comfortably. Fig. 3 shows road construction, which is the task of the central government in general, shows a high level of stability. This is inversely proportional to the steady condition of provincial roads. The delegation of tasks and authority for road construction that was handed over to the regional government has not been carried out properly. This finding is in line with research conducted by Wekesa et al [2]. Different findings were obtained by Ogbanga et al [5] who found that in Nigeria, infrastructure does not affect foreign investment in both the short and long term because the country's infrastructure is not yet optimal.

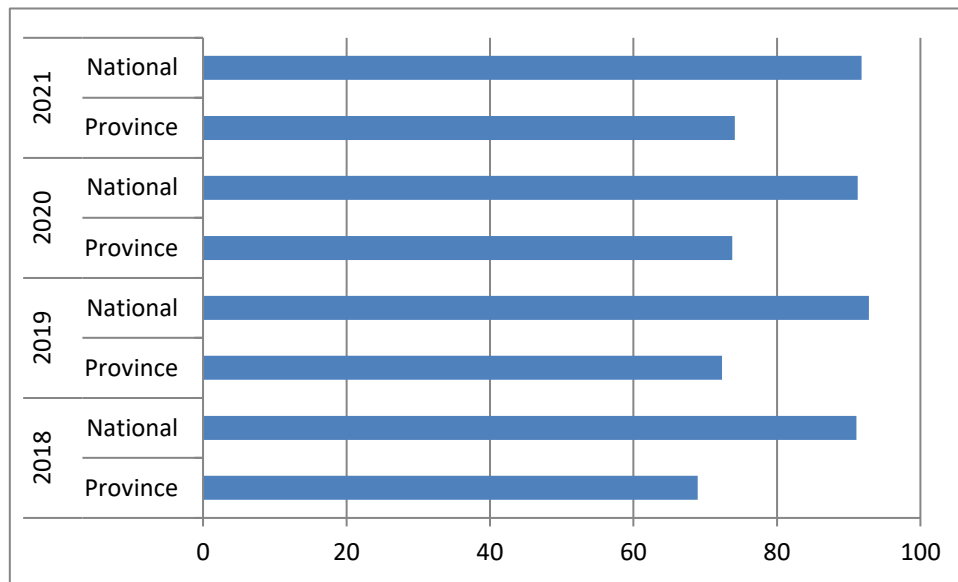
In this study, it was found that even though Indonesia's political stability was not perfect, investors still had an interest in investing their capital. Even if a democratic country is certain, there will still be times when it experiences democratic shocks. the democracy of a country, one of which can be reflected in the current political situation.

Fig. 4 shows that Indonesia's level of democracy is recorded to be lower than that of Malaysia. This is partly due to the government's performance, which has not been optimal, and the tendency toward an anti-critical political culture. Especially when approaching the implementation of general elections, Indonesian democracy can experience significant changes. Even so, there are still investors who believe in investing in Indonesia.



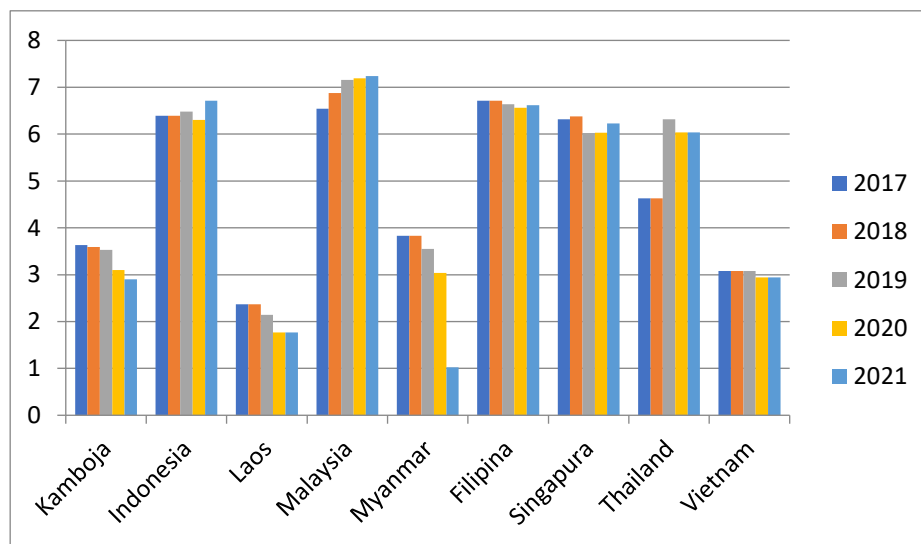
**Fig. 2. Average wage per month in ASEAN 2023**

Source: <https://wagecentre.com>



**Fig. 3. Stability Road in Indonesia 2018-2021 (%)**

Source: <https://data.pu.go.id/>



**Fig. 4. Democration Index in ASEAN 2017-2021(%)**

Source: <https://www.eiu.com/n/campaigns/democracy-index-2021/>

## 5.CONCLUSION

Based on testing and analysis of data on foreign investment, worker wages, infrastructure, and political stability in Indonesia for 2017-2021, the results can be drawn the following conclusions:

1. Foreign investment in the previous period has been shown to have a positive and significant effect on foreign investment in the short term.
2. Wages for workers have a positive relationship, but they do not affect foreign investment in the long or short term. So if there is an increase in the wage rate, investors are still interested in investing in Indonesia.
3. Infrastructure development has a good long-term and short-term impact on foreign investment in Indonesia. This suggests that the development of the infrastructure in Indonesia may attract international investment.
4. Political stability has a negative relationship with Indonesia but is unable to influence foreign investment. Thus, investors are still



interested in investing in Indonesia even though the political stability is relatively unfavourable.

## 6. RECOMMENDATION

- 1) While the government shouldn't necessarily set a standard minimum wage that is excessively high in this situation, wages are no longer a significant factor for investors when making investments. Capital owners should design a UMP that is lucrative for both parties who have diverse interests since the government indirectly plays a large role as a mediator between labour unions.
- 2) The condition of the infrastructure, both in terms of quantity and quality, must be a top priority for construction. As a means of encouraging foreign investment, it is expected that the government, whether at the local or national level, will be more committed to implementing its roles and responsibilities as a provider of public goods. Pemerintah hendaknya mengefisienkan anggaran untuk pembangunan infrastruktur, particularly for infrastructure roads that serve as access points for economic mobilization.
- 3) The condition of Indonesian democracy which is not yet good, must be the concentration of the government. The government should be able to develop the country following the established democratic foundation. The government must also be able to maintain political stability so that it continues to run conducive, especially when there are political stability so that investors are not affected and doubt about the security where they invest.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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